

REMARKS

I. Status of the Application

Claims 18-37 are pending in this application. In the February 1, 2008 final office action, the Examiner:

A. Rejected claims 18-20, 22-28 and 30-37 under 35 U.S.C. §102(b) as being anticipated by US 5,842,224 to Fenner et al. (hereinafter, "Fenner");

B. Rejected claim 21 under 35 U.S.C. §103(a) as being unpatentable over Fenner in view of US 6,026,198 to Okada et al.; and

C. Rejected claim 29 under 35 U.S.C. §103(a) as being unpatentable over Fenner and further in view of US 6,094,431 to Yamato et al.

II. The Rejection of Independent Claims 18, 30 and 36 Under 35 U.S.C. § 102(b) Should Be Withdrawn

In the February 1, 2008 final office action, the examiner rejected claims 18, 30 and 36 under 35 U.S.C. § 102(b) as being anticipated by Fenner. As provided in MPEP § 2131, "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ 2d 1913, 1920 (Fed. Cir. 1989). In addition, the elements must be arranged as required by the claim. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

The Fenner reference does not disclose all the limitations of claims 18, 30 and 36. For example, as explained in further detail below, the Fenner reference does not disclose the limitation of “*comparing* the compressed destination address identifier with entries of a routing table, each entry corresponding to a forwarding address available for routing” (emphasis added) as set forth in claim 18. As also explained in further detail below, another example of a limitation of claim 18 not found in Fenner is that of “if a positive comparison between the *compressed destination address* identifier and an entry stored in the routing table is found ... then switching the data packet to an output link associated with the *forwarding address* corresponding to the entry” (emphasis added).

A. Claim 18

Claim 18 is directed to a method for routing data packets that includes the steps of:

- (a) extracting a destination address identifier from a data packet to be forwarded,
- (b) compressing the destination address identifier using a compression algorithm,
- (c) comparing the compressed destination address identifier with entries of a routing table, each entry corresponding to a forwarding address available for routing, and
- (d) if a positive comparison between the compressed destination address identifier and an entry stored in the routing table is found in step (c), then switching the data packet to an output link associated with the forwarding address corresponding to the entry.

Thus, claim 18 involves compression of a destination address identifier from a data packet. The compressed destination address identifier is then *compared to the entries in a routing table* with every entry corresponding to a respective forwarding address. If a

correspondence is found between the compressed destination address identifier and one of the forwarding addresses stored in the routing table, then the data packet is switched to an output link associated with the corresponding forwarding address.

B. Fenner Does Not Disclose All Limitations of Claim 18

Fenner describes a look-up process of records in a routing table which is fundamentally different from the method set forth in claim 18. Namely according to claim 18, compressed destination address identifiers extracted from a data packet to be forwarded are *compared* with entries of a routing table, each entry corresponding to a forwarding address available for routing. In contrast to claim 18, the look-up process in Fenner is not based on a *comparison*, but on a *hashing-type look-up process*. Fenner does not mention that finding a unique address in the compressed address directory involves some type of comparison. Rather, an index is computed which is used to address a memory.

Fenner discloses destination and source addresses that are looked up in a routing table (see column 16, lines 23-25 of Fenner). This look-up process is described in more detail at column 17, line 66 to column 18, line 7 of Fenner. As explained in this passage, the look-up process does not involve *comparison* of a compressed destination address identifier with an entry of the routing table. Instead, the destination address is compressed so as to eventually obtain an index. The index is used to find a unique address in a compressed address directory. The index is not compared to entries of the compressed address directory, but is used to directly address a memory location, as illustrated in Figs. 2 and 3 of Fenner (see also column 13, lines 59-62 of Fenner). For this purpose, the compression of the destination

address is configured in such a manner that a value is obtained which can be used to directly address a memory location containing the required routing information. This is typical for a hashing-type look-up strategy.

Further details on the hashing-type look-up process according to Fenner are disclosed in column 23, lines 45-48 (i.e., “The record index is a data value that will be used as a logical address to the place within the key record memory”). This is confirmed by the explanations in column 24, lines 12-15 and 25-27 of Fenner (i.e., “Record memory 78’ stores records of data that are accessed by presenting a key to the associative memory module 500 and decoding it in a record memory address as described above ... presenting a key associated with that data and generating an address where the record is stored in a memory from a specially encoded index table 68’’”).

Accordingly, as can be seen from the above passages, the look-up process of Fenner is based on the concept that an address is compressed so as to obtain an index and this index is used as an address for accessing a record memory. This concept has the effect that no comparison is needed in the look-up process. While Fenner teaches compression of a destination address, Fenner does not teach a comparison of the compressed destination address with any other entity. Fenner only discloses that the compressed destination address, i.e., the index, is used in the look-up process to “find” a unique address in the compressed address directory (see column 18, line 6 of Fenner). However, the process of “finding” does not correspond to “comparing”. In particular, the hashing-type look-up strategy of Fenner is based upon directly addressing a record of the routing table by means of the index, thereby avoiding any type of comparison. Accordingly, no where does Fenner disclose “comparing

the compressed destination address identifier with entries of a routing table” as set forth in claim 18.

At page 3 of the final office action of February 1, 2008, the examiner argues that Fig. 12 of Fenner shows a loop 1203 which “compares the change in the symbol to the change in the table.” However, as can be taken from the overall context of Fig. 12, this is not part of the look-up process. Rather, Fig. 12 has to be assessed in the context of the description in connection with Figs. 9-16, which relate to a method of adding keys to the associative memory 500. Specifically, the procedure as illustrated in Fig. 12 of Fenner relates to a specific function of the circuit as illustrated in Fig. 9. This function is used when creating a new index value and changing the old index values so as to obtain near “perfect hashing” or “perfect packing” by maintaining a sorted order of keys (see column 28, line 61 – column 29, line 8, and also see column 32, lines 12-17). In other words, the procedure as illustrated in Fig. 12 has the purpose of creating a “hole” in the record memory for the record associated with the new key.

Consequently, the process of Fig. 12 is not part of the look-up process for finding an address in the compressed address directory. The skilled person will understand that finding entries in a directory and adding entries to a directory are completely different processes. In the present case, the comparison as carried out in the loop of Fig. 12 of Fenner would not be compatible to be used within the look-up process as described in Fenner. Accordingly, the skilled person would refrain from using such a comparison in the look-up process.

In this respect, it should also be noted that the loop 1203 as shown in Fig. 12 of Fenner is used to find an index value in the “change table” (reference numeral 903 in Fig. 9 of

Fenner). The change table keeps information on the last index values assigned for each symbol (see column 29, lines 50-56 of Fenner). Further, the loop 1203 compares entries of the change table to entries of the “save table”. Neither the entries of the change table nor the entries of the save table have the meaning of a “compressed destination address” or “forwarding address” as set forth in claim 18.

Accordingly, as set forth above, the comparison as carried out in the loop of Fig. 12 not only has an entirely different purpose than the look-up of records, but is based on comparing entirely different entities. Therefore, Fenner does not disclose all the limitations of claim 18. In particular, Fenner at least does not disclose the limitations of “*comparing* the compressed destination address identifier with entries of a routing table, each entry corresponding to a forwarding address available for routing” and “if a positive comparison between the *compressed destination address* identifier and an entry stored in the routing table is found ... then switching the data packet to an output link associated with the *forwarding address* corresponding to the entry” (emphasis added).

In view of the above, it is respectfully submitted that Fenner does not disclose each and every limitation of claim 18. Furthermore, as required by MPEP § 2131, Fenner does not disclose the limitations of claim 18 in as “complete detail” as is contained in claim 18, and the elements in Fenner are not arranged as required by the claim. Accordingly, it is respectfully submitted that the examiner has not made a prima facie case of anticipation, and the rejection of claim 18 under 35 U.S.C. § 102(b) should be withdrawn.

C. Claim 30

In the February 1, 2008 final office action, claim 30 was rejected as being anticipated by Fenner under 35 U.S.C. § 102(b). However, claim 30 includes limitations not found in Fenner. For example, claim 30 includes the limitation of “a routing unit configured to compare the compressed destination address identifier with the entries stored in the routing table store for finding a correspondence between the compressed destination address identifier and one of the entries, each entry corresponding to a forwarding address.” Thus, claim 30 includes limitations similar to those found in claim 18. Accordingly, for at least the same reasons as those set forth above in connection with claim 18, it is respectfully submitted that the rejection of claim 30 under 35 U.S.C. § 102(b) should also be withdrawn.

D. Claim 36

In the February 1, 2008 final office action, claim 36 was rejected as being anticipated by Fenner under 35 U.S.C. § 102(b). However, claim 36 includes limitations not found in Fenner. For example, claim 36 includes the limitation of “a routing unit for comparing the destination address identifier with the entries stored in the routing table storing means for finding a correspondence between the destination address identifier and one of the forwarding addresses.” Thus, claim 36 includes limitations similar to those found in claim 18. Accordingly, for at least the same reasons as those set forth above in connection with claim 18, it is respectfully submitted that the rejection of claim 36 under 35 U.S.C. § 102(b) should also be withdrawn.

III. The Rejection of Dependent Claims 19-29, 31-35 and 37 Should Be Withdrawn

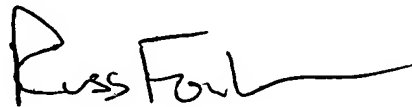
Dependent claims 19-29, 31-35, and 37 all depend from and incorporate all the limitations of one of allowable independent claims 18, 30, or 36. Accordingly, it is respectfully submitted that dependent claims 19-29, 31-35, and 37 are also allowable for at least the same reasons the independent claims 18, 30, or 36 are allowable, and the examiner's rejection of dependent claims 19-29, 31-35, and 37 under 35 U.S.C. § 102(b) or § 103(a) should be withdrawn.

IV. Conclusion

For all of the foregoing reasons, it is respectfully submitted the applicant has made a patentable contribution to the art. Favorable reconsideration and allowance of this application is therefore respectfully requested.

In the event applicant has inadvertently overlooked the need for an extension of time or payment of an additional fee, the applicant conditionally petitions therefore, and authorizes any fee deficiency to be charged to deposit account 13-0014.

Respectfully submitted,



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